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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/786,128	02/26/2004	Sukhdeep S. Hundal	VTX0314-US	1874

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EXAMINER	
NGUYEN, TUAN HOANG	

ART UNIT	PAPER NUMBER
2618	

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05/23/2008	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/786,128	HUNDAL, SUKHDEEP S.	
	Examiner	Art Unit	
	TUAN H. NGUYEN	2618	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *03/03/2008*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *2-22* is/are pending in the application.

4a) Of the above claim(s) *1* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *2-7,9, and 13-22* is/are rejected.

7)☒ Claim(s) *8 and 10-12* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Response To Arguments

1. Applicant's arguments, see applicant's remarks, filed on 03/03/2008, with respect to the rejection(s) of claims 1-22 under 35 U.S.C § 102(e) and 35 U.S.C § 103(a) have been fully considered and are persuasive. Therefore, the rejection has been withdrawn. However, upon further consideration, a new ground(s) of rejection is made in view of Kloper et al. (US PAT. 6,941,110 hereinafter, "Kloper") and Gan et al. (U.S PUB. 2006/0176850 hereinafter "Gan").

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

3. Claims 2-7, 9, and 13-22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kloper et al. (US PAT. 6,941,110 hereinafter, "Kloper") in view of Gan et al. (U.S PUB. 2006/0176850 hereinafter "Gan").

Consider claim 2, Kloper teaches a method for avoiding interference during operation of a first RF device employing a first frequency hopping spread spectrum

protocol, in conjunction with the operation of at least one other RF device employing a different communications protocol (col. 1 lines 56-66), comprising: identifying an interference from the at least one other RF device in the radio communication band (col. 1 line 56 through col. 2 line 17); and adjusting of the first device to avoid overlap with the at least one other device, wherein hopping frequencies employed by the first device cluster in one or more frequency ranges (col. 2 lines 7-17, and col. 5 lines 39-59).

Kloper does not explicitly show that the identifying an interference comprises: selecting a plurality of test channels in accordance with a channel structure of the interferer; selecting a frequency that is potentially occupied by an interferer that is the source of the interference in each selected channel; measuring a received signal strength associated with each selected channel; and identifying the interferer in accordance with the measured received signal strength indicators.

In the same field of endeavor, Gan teaches the identifying an interference comprises: selecting a plurality of test channels in accordance with a channel structure of the interferer (page 4 [0057] and [0066]); selecting a frequency that is potentially occupied by an interferer that is the source of the interference in each selected channel (page 4 [0059]); measuring a received signal strength associated with each selected channel (pages 4-5 [0067]); and identifying the interferer in accordance with the measured received signal strength indicators (pages 4-5 [0067]).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to use, the identifying an interference comprises: selecting a plurality of test channels in accordance with a channel structure of the interferer;

selecting a frequency that is potentially occupied by an interferer that is the source of the interference in each selected channel; measuring a received signal strength associated with each selected channel; and identifying the interferer in accordance with the measured received signal strength indicators, as taught by Gan, in order to provide a communications device is used in a network that communicates via a frequency hopping protocol. The communications device includes a memory that has identification data that identifies a set of communications channels that is selected based on channel performance and a performance criterion.

Consider claim 3, Gan further teaches determining a bit error rate or frame error rate (page 4 [0058]).

Consider claim 4, Gan teaches the at least one other RF device includes a fixed frequency duplex device (page 3 [0023]).

Consider claims 5 and 9, Kloper teaches the at least one other RF device includes a second device, wherein the second device operates according to the IEEE 802.11 protocol (col. 4 lines 17-21).

Consider claim 6, Kloper teaches the at least one other RF device includes a third device, wherein the third device employs a second frequency hopping spread

spectrum protocol (col. 5 lines 18-38).

Consider claim 7, Kloper teaches the first device and the third device operate in the same time domain, wherein the adjusting the frequency of operation comprises intelligent frequency hopping employed by the first device (col. 5 lines 39-52).

Consider claim 13, Kloper teaches a system comprising: a first RF module, wherein the first module employs a first frequency hopping spread spectrum protocol (col. 1 lines 56-66); at least one additional RF module (col. 1 lines 56-66); a first protocol stack and transcoder coupled to the first module (col. 1 lines 56-66); and a system microcontroller in communication with the first module and the at least one additional module, wherein the microcontroller receives and sends instructions through the first module protocol stack and transcoder to adjust the operation frequencies employed by the first module to avoid interference identified from the at least one other RF module, wherein hopping frequencies employed by the first RF module cluster in one or more frequency ranges (col. 2 lines 7-17 and col. 5 lines 39-59).

Kloper does not explicitly show that the interference is identified by: selecting a plurality of test channels in accordance with a channel structure of the interferer; selecting a frequency that is potentially occupied by an interferer that is the source of the interference in each selected channel; measuring a received signal strength associated with each selected channel; and identifying the interferer in accordance with the measured received signal strength indicators.

In the same field of endeavor, Gan teaches the interference is identified by: selecting a plurality of test channels in accordance with a channel structure of the interferer (page 4 [0057] and [0066]); selecting a frequency that is potentially occupied by an interferer that is the source of the interference in each selected channel (page 4 [0059]); measuring a received signal strength associated with each selected channel (pages 4-5 [0067]); and identifying the interferer in accordance with the measured received signal strength indicators (pages 4-5 [0067]).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to use, the interference is identified by: selecting a plurality of test channels in accordance with a channel structure of the interferer; selecting a frequency that is potentially occupied by an interferer that is the source of the interference in each selected channel; measuring a received signal strength associated with each selected channel; and identifying the interferer in accordance with the measured received signal strength indicators, as taught by Gan, in order to provide a communications device is used in a network that communicates via a frequency hopping protocol. The communications device includes a memory that has identification data that identifies a set of communications channels that is selected based on channel performance and a performance criterion.

Consider claim 14, Kloper further teaches the at least one additional RF module comprises a second module, and wherein the second module employs a second

frequency hopping spread spectrum protocol (col. 1 lines 56-66).

Consider claims 15 and 18, Kloper further teaches the wherein the microcontroller receives and sends instructions through the second module protocol stack and transcoder to adjust the operation frequencies employed by the second module to avoid interference with the first RF module (col. 2 lines 7-17, col. 3 lines 52-60, and col. 5 lines 39-59).

Consider claims 16 and 17, Kloper further teaches the at least one additional RF module further comprises a third module employing an 802.11 protocol, wherein the microcontroller receives and sends instructions through the first module protocol stack and transcoder to adjust the operation frequencies employed by the first module to avoid interference with the frequency band associated with the third RF module (col. 16 lines 14-27).

Consider claim 19, Kloper further teaches the microcontroller receives and sends instructions through the first module protocol stack and transcoder to adjust the operation frequencies employed by the first module, wherein the first module selects hop frequencies from a one or more frequency ranges that does not substantially overlap the band employed by the third RF module (col. 2 lines 7-17 and col. 5 lines 39-59).

Consider claim 20, Kloper further teaches the microcontroller receives and sends instructions through the second module protocol stack and transcoder to adjust the operation frequencies employed by the second module, wherein the second module selects hop frequencies from a second frequency range that does not substantially overlap the one or more frequency ranges or the frequency band employed by the third RF module (col. 2 lines 7-17 and col. 5 lines 39-59).

Consider claim 21, Kloper teaches an RF communications device comprising: a first RF transceiver employing a frequency hopping spread spectrum protocol, wherein the transceiver includes capability of detection of an interferer employing a different RF communications protocol (col. 1 lines 56-66); a first frequency hopping spread spectrum protocol stack and transcoder coupled to the first RF transceiver (col. 1 lines 56-66); and a microcontroller in communication with the protocol stack, wherein the microcontroller facilitates segregation one or more frequency ranges of a set of channels employed by the first transceiver from a set of channels employed by at least one interferer employing a different RF communications protocol (col. 2 lines 7-17, col. 3 lines 52-60, and col. 5 lines 39-59).

Kloper does not explicitly show that the detection of an interferer comprises: selecting a plurality of test channels in accordance with a channel structure of the interferer; selecting a frequency that is potentially occupied by an interferer that is the source of the interference in each selected channel; measuring a received signal

strength associated with each selected channel; and identifying the interferer in accordance with the measured received signal strength indicators.

In the same field of endeavor, Gan teaches the detection of an interferer comprises: selecting a plurality of test channels in accordance with a channel structure of the interferer (page 4 [0057] and [0066]); selecting a frequency that is potentially occupied by an interferer that is the source of the interference in each selected channel (page 4 [0059]); measuring a received signal strength associated with each selected channel (pages 4-5 [0067]); and identifying the interferer in accordance with the measured received signal strength indicators (pages 4-5 [0067]).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to use, the detection of an interferer comprises: selecting a plurality of test channels in accordance with a channel structure of the interferer; selecting a frequency that is potentially occupied by an interferer that is the source of the interference in each selected channel; measuring a received signal strength associated with each selected channel; and identifying the interferer in accordance with the measured received signal strength indicators, as taught by Gan, in order to provide a communications device is used in a network that communicates via a frequency hopping protocol. The communications device includes a memory that has identification data that identifies a set of communications channels that is selected based on channel performance and a performance criterion.

Consider claim 22, Kloper further teaches a second RF transceiver in communications with the microcontroller, wherein the second RF transceiver employs a communications protocol different from the first transceiver (col. 1 lines 56-66).

Allowable Subject Matter

4. Claims 8 and 10-12 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

5. Any response to this action should be mailed to:

Mail Stop_____ (Explanation, e.g., Amendment or After-final, etc.)

Commissioner for Patents

P.O. Box 1450

Alexandria, VA 22313-1450

Facsimile responses should be faxed to:

(571) 273-8300

Hand-delivered responses should be brought to:

Customer Service Window

Randolph Building

401 Dulany Street

Alexandria, VA 22313

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tuan H. Nguyen whose telephone number is (571)272-8329. The examiner can normally be reached on 8:00Am - 5:00Pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Maung Nay A. can be reached on (571)272-7882882. The fax phone number for the organization where this application or proceeding is assigned is (571) 273-8300.

Information Consider the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

/Tuan Nguyen/
Examiner
Art Unit 2618

/Nay A. Maung/
Supervisory Patent Examiner, Art Unit 2618